

**Summary Minutes of the  
U.S. Environmental Protection Agency  
Clean Air Scientific Advisory Committee (CASAC)  
Augmented for Sulfur Oxides Review  
Public Teleconference  
June 11, 2014, 1:00 – 4:00 p.m. (Eastern Time)**

Purpose: To discuss the draft report from the CASAC Augmented for Sulfur Oxides Review on EPA's Integrated Review Plan the Primary National Ambient Quality Standard for Sulfur Dioxide (External Review Draft).

Meeting Participants:

CASAC Augmented Sulfur Oxides Review Panel Members (see Roster):

Dr. Anna Diez-Roux (Chair)	Dr. Kazuhiko Ito
Mr. George Allen	Dr. Farla Kaufman
Dr. John Balmes	Dr. David Peden
Dr. James Boylan	Dr. Richard Schlesinger
Dr. Aaron Cohen	Dr. Elizabeth (Lianne) Sheppard
Dr. Alison Cullen	Dr. Frank Speizer
Dr. Delbert Eatough	Dr. Helen Suh
Dr. William Griffith	Dr. James Ultman
Dr. Steven Hanna	Dr. Ronald Wyzga

Designated Federal Officer: Dr. Diana Wong, SAB Staff Office

Other Attendees: See Attachment A.

Meeting Materials and Meeting Webpage:

The materials listed below may be found on the meeting webpage at:

<http://yosemite.epa.gov/sab/sabproduct.nsf/MeetingCal/A4B346B6D795D74985257CD100714737?OpenDocument>

- Panel Roster
- Agenda
- Federal Register Notice
- Charge Memos
- EPA's Integrated Review Plan for the Primary National Ambient Air Quality Standard for Sulfur Dioxide
- CASAC Draft Review Report
- Agency Presentation
- Public Comments
- Registered Public Speakers
- Public Comments
  - Julie Goodman on behalf of American Petroleum Institute
  - Albert Donnay on behalf of himself

## Meeting Summary

The discussion followed the plan presented in the meeting agenda.

Dr. Wong, Designated Federal Officer for the committee, convened the meeting and explained that CASAC operates under the Federal Advisory Committee Act. She noted that as required under the Federal Advisory Committee Act (FACA) and EPA policies, the Panel's deliberations are held in public with advanced notice given in the Federal Register, and the meeting minutes are made publicly available after the teleconference.

### **EPA Clarifications on the Integrated Review Plan (IRP) and Risk and Exposure Assessment (REA) Planning Document**

Dr. Stephen Graham from EPA's Office of Air Quality Planning & Standards gave a presentation to clarify the existing SO<sub>2</sub> standard, the SO<sub>2</sub> IRP, and the evaluations that will be included in the SO<sub>2</sub> REA Planning document. Dr. Graham's presentation can be found on the meeting webpage. In response to panel member questions, EPA representatives also clarified that if a REA document is not prepared, the REA will be in the Policy Assessment. Moreover, if the agency decides that a full REA is warranted, there will be enough time in the schedule to do the REA.

### **Public Comments**

As indicated in the List of Public Speakers (posted on the meeting webpage), there were two public speakers.

Dr. Julie Goodman, on behalf of the American Petroleum Institute, pointed out two areas where the IRP could be improved. First, EPA used the same causal framework for all pollutants, and has not made any modifications to the causal framework for SO<sub>2</sub> evaluation despite available suggestions for improvements. Second, the IRP could be more specific about how EPA will interpret the scientific evidence with respect to the averaging time and form of the standard. There needs to be a clear connection between the level and averaging time at which health effects are observed and the level, averaging time, and form of the NAAQS. Dr. Goodman's comments are posted on the meeting webpage.

Mr. Albert Donnay commented on EPA's process for compiling and winnowing references from literature search for the Integrated Science Assessments. He urged EPA to select studies for the ISA on SO<sub>2</sub> more transparently and to provide panel members with access to the full text of all articles cited in the draft and final ISA. Mr. Donnay's comments are posted on the meeting webpage.

### **Panel Discussion on Draft IRP Review Report**

Dr. Ana Diez-Roux led the panel discussion on the draft panel report, dated May 27, 2014.

### Consensus Responses to Charge Questions:

For response to charge question on Chapter 1 (Introduction) and Chapter 2 (Schedule), (Pg 8, Line 40-41) EPA clarified that the current plan for CASAC review of the REA planning document would be a consultation with no consensus response from panel members to charge questions.

However, the panel was not in favor of consultation, and believed CASAC should conduct a full peer review of the REA planning document.

For the response to the charge question on Chapter 4 (Science Assessment), the panel agreed to revise the text regarding the use of SO<sub>2</sub> as the indicator for the primary Sulfur Oxides NAAQS. The ISA should be clear about the definition of pollutants for review, but need not to be limited to just SO<sub>2</sub>. Also, the panel agreed to revise the language on page 10, line 10, to clarify the need for EPA to summarize relevant “older” human and epidemiological studies. In addition, in reviewing recent epidemiological studies, panel members agreed that EPA should discuss any finding of a lack of association may be due to insufficient statistical power.

For the response to the charge question on Chapter 5 (Quantitative Risk and Exposure Assessment), Pg 10, Line 35-41, the panel agreed to revise “suggest” to stronger language that EPA must provide the criteria and process through which it will decide whether a new REA will be carried out in the REA planning document, and to clarify analyses of newly available data can be used to develop new or improved models that relate 5-minute and hourly SO<sub>2</sub> concentrations. In addition, a panel member agreed to provide new text to ask EPA to review older references on fluctuation in concentrations on 5-minute data, and that recent 5-minute data should be analyzed using conceptual models in historical and other pertinent references.

For the response to the charge question on Chapter 6, Pg 11, Line 15-18, a panel member clarified that there are no new technologies in the most recent Federal Reference Method (FRM) for measurement of SO<sub>2</sub> in monitoring networks. Regarding the use of regulatory-approved near source steady-state dispersion model in lieu of monitoring, a panel member commented that a model that incorporated chemistry should be used.

#### Letter to the Administrator:

The Panel discussed the wording on Pg 2. Line 13-15, and agreed that the language should be revised, and that the REA planning document should undergo full review by CASAC. A panel member asked if EPA plans to do some preliminary analyses in the REA planning document. Steven Graham of OAQPS confirmed that this is the agency’s plan.

The panel chair, Dr. Diez-Roux, asked panel members if they would give oral concurrence on the report, with recommendations from the panel deliberations incorporated. Panel members gave their oral concurrence. Dr. Diez-Roux announced that the Panel has completed its deliberations on the IRP and that the draft, revised per the panel’s recommendations, would be sent to the chartered CASAC for quality review at the CASAC meeting on July 16, 2014.

#### **Summary of Next Steps**

Dr. Wong announced that panel members assigned to revise specific sections should send the revised text to her in one week (by June 18). The revised report will be posted on CASAC website and that the CASAC review teleconference will be on July 16, 2014, 10:00 a.m. – 1:00 p.m.

Dr. Wong adjourned the meeting.

On Behalf of the Committee,  
Respectfully Submitted,

Diana Wong, Ph.D. /s/  
Designated Federal Officer

Certified as True:

Ana Diez-Roux, Ph.D. /s/  
Chair, CASAC Sulfur Oxides Review Panel

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by committee members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive consensus advice from the panel members. The reader is cautioned to not rely on the minutes represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters, or reports prepared and transmitted to the EPA Administrator following the public meetings.

## Attachment A. Other Attendees

List of persons who identified themselves on the teleconference or who had requested call-in information for the meeting.

<b>Name</b>	<b>Affiliation</b>
Darryl Adams	EPA
Tim Benner	EPA
Tiffany Bredfeldt	Texas Commission on Environmental Quality
Roger Brode	EPA
Charles Buckler	EPA
Gail Cooke	New Mexico Air Quality Bureau
Bridgid Curry	EPA
Amanda Curry Brown	EPA
Rich Damberg	EPA
Matthew Davis	EPA
Dan Deroeck	EPA
Albert Donnay	Self
Rachelle Duvall	EPA
Wanda Farrar	EPA
Neil Frank	EPA
Julie Goodman	Gradient Corp
Stephen Graham	EPA
James Hemby	EPA
Laurie Hulse-Moyer	Washington State Department of Ecology
John Jansen	Southern Company
Jenette Kwong	California Air Resource Board
John Langstaff	EPA
Tom Long	EPA
Adele King Malone	Nevada Division of Environmental Protection
Privanka Pathak	EPA
Lea Radick	Inside EPA
Raj Rao	EPA
Sarah Rees	EPA
Irene Shandruk	EPA
Deborah Shprentz	American Lung Association
Steven Silverman	EPA
Douglas Solomon	EPA
Holly Stallworth	EPA
Ted Steichen	American Petroleum Institute
Mike Stewart	EPA
James Thurman	EPA
Stephanie Tsao	Argus Air Daily
John Vandenberg	EPA
Lisa Vinikoor-Imler	EPA
Larry Wallace	EPA
Nealson Watkins	EPA
Karen Wesson	EPA
Aaron Yeow	EPA